

### REMARKS

The claims have been amended in order to more completely describe and distinctly claim the invention and to overcome the various grounds of rejection set forth in the Official Letter. Inasmuch as no new matter is embodied by the proposed amendments, entry thereof is respectfully requested.

The rejection of the claims under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the invention, is believed to be obviated by the above amendment, whereby the objectionable phraseology has been substituted with appropriate definitions that render the claims compliant with 35 USC §112.

Accordingly, withdrawal of this ground of rejection is respectfully requested.

The rejection of claims 11-13 under 35 USC 102 over Evans et al as being completely anticipated is respectfully traversed insofar as this ground of rejection is directed to the claims as presently amended. The claims have been amended so as to exclude therefrom the terpolymers to which Evans is limited. In addition, the amended claims do not read on the minimum amount of additive alleged by the Examiner to be disclosed by the reference. Accordingly, withdrawal of this ground of rejection is respectfully requested.

The rejection of claims 1-4 and 6-10 over 35 USC 103 as obviously unpatentable over Kobayashi is respectfully traversed insofar as this ground of rejection is directed to the claims as presently amended. The Examiner states that the reference teaches:

*“---fluorosilicone polymers that meet the additive in claim 1---The bottom of column 5 discloses that these fluorosilicones have a low surface tension and are useful as an additive for modifying the*

*physical properties of synthetic rubbers and resins. Since the fluorosilicones are described as having low surface tension, the skilled artisan would immediately envision adding the fluorosilicones to a synthetic rubber or resin having a higher surface tension --- From this the skilled artisan would have been motivated to add the fluorosilicones taught by Kobayashi to a thermosetting resin in an effort to decrease the surface tension thereof, a known benefit and property associated with the addition of fluorosilicones to synthetic rubbers and resins, as disclosed by Kobayashi. With regards to the claimed amount, note that It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. That is, it would have been within routine experimentation and/or optimization---*".

The present invention is predicated on the addition of no more than 5% of additive to the thermosetting resin such that there is a gradient of concentration thereof throughout a cross-section of the resin. The sole disclosure of utility in the reference is at col. 5, lines 50-55, wherein it is stated:

*"---The fluorosilicone polymer in accordance with the present invention as described hereinbefore has a low surface tension, excellent oil resistance, excellent heat resistance, and so forth. Accordingly, it is useful as a coating where such properties are critical. It is also useful as an additive for modifying the physical properties of synthetic rubbers and synthetic resins---*".

Thus, there is nothing in the reference that teaches the skilled artisan the necessary "known benefit and property" and/or "general conditions of the claim" stated by the Examiner to be essential to any rejection based on 35 USC §103 and from which the same skilled artisan could "discover the optimum optimum or working ranges through routine experimentation". Accordingly, withdrawal of this ground of rejection is respectfully requested.


The prior art cited by the Examiner but not relied upon has been carefully reviewed. This reference will not be discussed in detail. Suffice it to state that it does not disclose nor suggest the claimed invention

The indication that claim 5 would be allowed upon presentation as an independent claim is gratefully acknowledged. By the above amendment, applicants have earnestly endeavored to place this application in condition for allowance and an early action to that end is respectfully requested.

If any additional fees are required, please charge our Deposit Account No. 50-1165.

Respectfully submitted,

MILES & STOCKBRIDGE P.C.



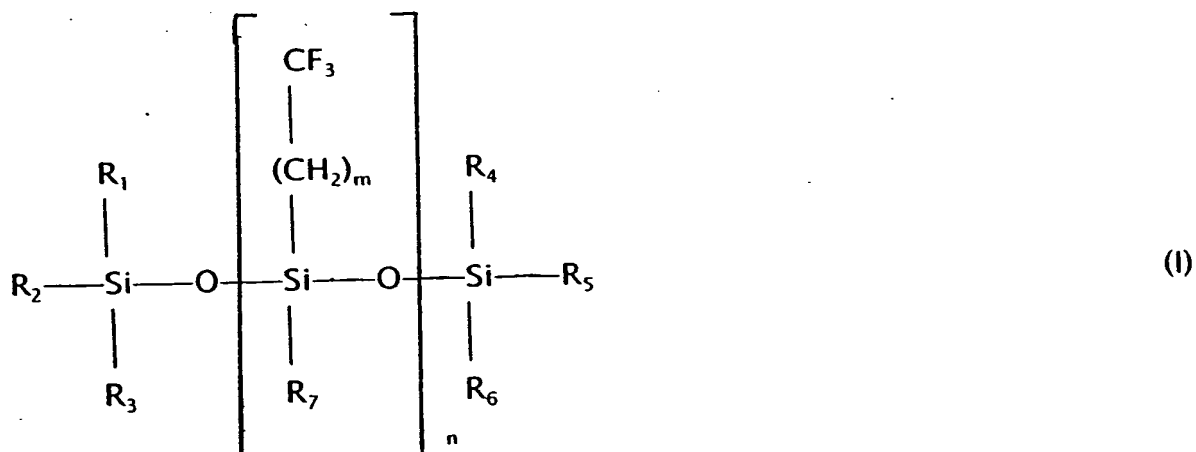
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Filed: February 4, 2003

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**MARKED-UP VERSION OF THE CLAIMS:**

1. (Amended) A mixture comprising (1) a cross-linkable thermosetting resin providing composition and intimately admixed therewith, (2) from about 0.01 to [about] 5%, by weight, based on the weight of the mixture of an additive comprising a polyfluoroalkylsiloxane, said additive having a lower surface energy than that of the thermoset resin formed by cross-linking said composition; said additive being a polyfluoroalkylsiloxane having the formula:

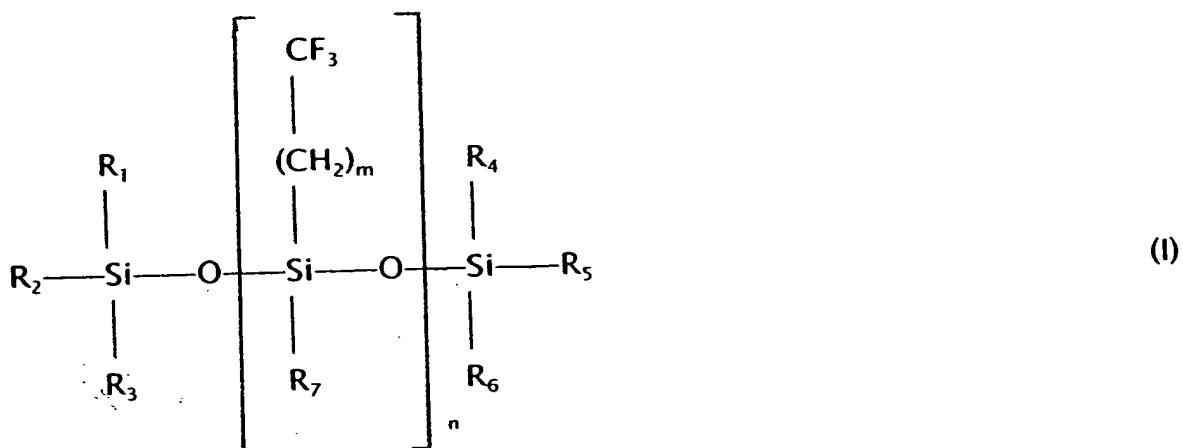


wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$  and  $R_7$  may be the same or different and may be alkyl, cycloalkyl or aryl;  $R_7$  may also be  $-(CH_2)_m-CF_3$ ;  $m$  is an integer from 0 to 20, and  $n$  is an integer from 1 to 5,000; [or]

[said additive being a silanol terminated derivative of said polyfluoro-alkylsiloxane or a copolymer of said polyfluoroalkylsiloxane with an alkyl, aryl or alkyl-aryl-siloxane] a copolymer of said polyfluoroalkylsiloxane with an alkyl, aryl or alkyl-aryl-siloxane, or a silanol terminated derivative of said polyfluoro-alkylsiloxane.

3. (Amended) A mixture according to claim 1 wherein each of said alkyl groups [may be] are methyl, ethyl, propyl, butyl, octyl or dodecyl.

4. (Amended) A method of forming a composition of matter comprising a cross-linked thermoset resin and from about 0.01 to [about] 5%, by weight of an additive comprising a polyfluoroalkylsiloxane, said additive having a lower surface energy than that of said resin; said method comprising intimately admixing with a cross-linkable thermosetting resin providing composition (I) a polyfluoroalkylsiloxane having the formula:



wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$  and  $R_7$  may be the same or different and may be alkyl, cycloalkyl or aryl;  $R_7$  may also be  $-(CH_2)_m-CF_3$ ;  $m$  is an integer from 0 to 20, and  $n$  is an integer from 1 to 5,000; [or]

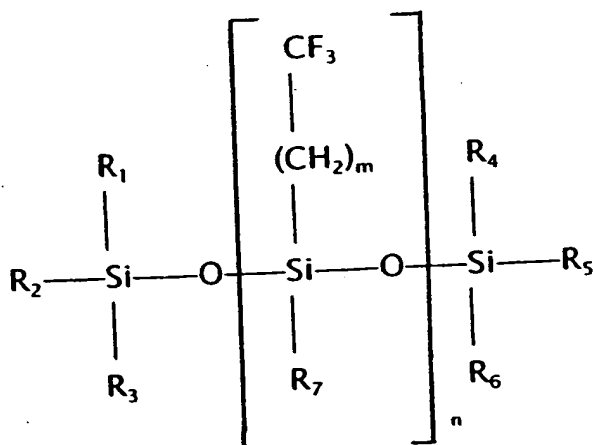
a silanol terminated derivative of said polyfluoroalkylsiloxane or a copolymer of said polyfluoroalkylsiloxane or a copolymer of said poly-fluoroalkylsiloxane with an alkyl, aryl or alkyl-aryl-siloxane;

[followed by subjecting said mixture to conditions which produce a cross-linked thermoset solid resin wherein the concentration of said additive through a cross-section of said solid corn position is lower in the interior thereof and higher at the surfaces thereof] a copolymer of said polyfluoroalkylsiloxane with an alkyl, aryl or alkyl-aryl-siloxane, or a silanol terminated derivative of said polyfluoro-alkylsiloxane.

6. (Amended) A method according to claim 4 wherein each of said alkyl groups [may be] are methyl, ethyl, propyl, butyl, octyl or dodecyl.

9. (Amended) A composition according to claim 8 wherein each of said alkyl groups [may be] are methyl, ethyl, propyl, butyl, octyl or dodecyl.

11. (Amended) A composition of matter comprising (1) a cross-linked thermoset resin and (2) from about 0.01 to [about] 5%, by weight, based on total weight of the composition of a polyfluoroalkylsiloxane having the formula:



(I)

wherein  $R_1$ ,  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_5$ ,  $R_6$  and  $R_7$  may be the same or different and may be alkyl, cycloalkyl or aryl;  $R_7$  may also be  $-(CH_2)_mCF_3$ ,  $m$  is an integer from 0 to 20, and  $n$  is an integer from 1 to 5,000; [or]

a silanol terminated derivative of said polyfluoroalkylsiloxane or a copolymer of said polyfluoroalkylsiloxane or a copolymer of said polyfluoro-alkylsiloxane with an alkyl, aryl or alkyl-aryl-siloxane;

[wherein the concentration of said polyfluoroalkylsiloxane through a cross-section of said composition is lower in the interior thereof and higher at the surfaces thereof] a copolymer of said polyfluoroalkylsiloxane with an alkyl, aryl or alkyl-aryl-siloxane, or a silanol terminated derivative of said polyfluoro-alkylsiloxane.

12. (Amended) A composition according to claim 11 wherein each of said alkyl groups [may be] are methyl, ethyl, propyl, butyl, octyl or dodecyl.